REMARKS

Claims 1 to 8 are all the claims pending in the application.

The Examiner again recommends that applicants cancel the non-elected subject matter in response to the present Office Action.

In response, applicants have canceled the non-elected subject matter from claim 1.

In particular, the Examiner has previously suggested that applicants amend claim 1 to recite the phrase --Z_2 represents an atomic group selected from the group consisting of a furan ring and a thiophene ring which are condensed to a benzo ring to form a tetracyclic ring--. Applicants have amended claim 1 in accordance with this suggestion.

In addition, applicants have amended claim 3 to delete formula (IX). Since Z_6 in formula (IX) represents N-R_3, formula (IX) is inconsistent with the requirement of claim 1 that Z_2 represents an atomic group selected from a furan ring and a thiophene ring.

Claims 1-8 have been rejected under the second paragraph under 35 U.S.C. § 112 as indefinite.

The Examiner sets forth two reasons for this rejection.

Applicants discuss below each of the Examiner's reasons for the rejection.

(a) The Examiner states that in claim 1 the phrases "mercapto group", "cyano group", carboxyl group", etc. are not clear. This is a new ground of rejection.

The Examiner asks what is covered and what is not? The Examiner states that it appears that the term "group" indicates the presence of a substituent. The Examiner asks what is the

difference between mercapto and just a mercapto. The Examiner asks whether a cyano group is different from just cyano.

In response, applicants submit that the claims are clear and are employing standard claim terminology and standard chemical terminology. A mercapto group is not different from just a mercapto, a cyano group is not different from just a cyano, and a carboxyl group is not different from just a carboxyl.

Applicants enclose copies of printouts from websites that define mercapto group (http://en.wikipedia.org/wiki/IUPAC nomenclature of organic chemistry; -SH), cyano group (infoplease.com; -C≡N) and carboxyl group (answers.com;-COOH).

Although the Examiner states that there is no guidance in the specification that explains what the groups are, the Examiner does not point out why he does not understand the meaning of claim 1. Applicants submit that there is nothing indefinite in the claim recitations of the named groups which have well understood meanings in the art

(b) The Examiner states that in claim 1 and elsewhere in the claims, the phrase "phosphoric acid group" is not clear.

The Examiner states that phosphoric acid is a molecule and not a moiety, and asks whether a "phosphoric acid group" is a molecule or moiety, and if it is a moiety, how is it attached to the tetracyclic ring.

Again, the term "phosphoric acid group" is a term that is commonly used in the art and represents a $-OPO(OH)_2$ moiety that would be attached to the tetracyclic ring through an oxygen atom. See, for example, the attached abstract from U.S. Patent 6,617,409.

In view of the above, applicants request withdrawal of this rejection.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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for compounds derived from them.

Order of precedence of groups

When compounds contain more than one functional group, the order of precedence determines which groups are named with prefix or suffix forms. The highest precedence group takes the suffix, with all others taking the prefix form. However, double and triple bonds only take suffix form (-en and -yn) and are used with other suffixes.

Prefixed substituents are ordered alphabetically (excluding any modifiers such as di-, tri-, etc.), e.g. chlorofluoromethane, *not* fluorochloromethane. If there are multiple functional groups of the same type, either prefixed or suffixed, the position numbers are ordered numerically (thus ethane-1,2-diol, *not* ethane-2,1-diol.) The *N* position indicator for amines and amides comes before "1", e.g. $CH_3CH(CH_3)CH_2NH(CH_3)$ is *N*,2-dimethylpropanamine.

Priority	Functional group	Formula	Prefix	Suffix
1	Cations e.g. Ammonium	 $-NH_4^+$	-onio- ammonio-	-onium -ammonium
2	Carboxylic acids Thiocarboxylic acids Selenocarboxylic acids Sulfonic acids Sulfinic acids Sulfenic acids	–COOH –COSH –COSeH $-SO_3H$ $-SO_2H$ –SOH	carboxy- thiocarboxy- selenocarboxy- sulfo- sulfino- sulfeno-	-oic acid* -thioic acid* -selenoic acid* -sulfonic acid -sulfinic acid -sulfenic acid
3	*Carboxylic acid derivatives* Esters Acyl chlorides Amides Imides Amidines	–COOR –COCl $-CONH_2$ –CON=C< $-C(=NH)NH_2$	R-oxycarbonyl- chloroformyl- carbamoyl- -imido- amidino-	 -oyl chloride* -amide* -imide* -amidine*
4	Nitriles Isonitriles	–CN –NC	cyano- isocyano-	-nitrile* -isonitrile
5	Aldehydes Thioaldehydes	–CHO –CHS	formyl- thioformyl-	-al* -thial*
6	Ketones Thioketones	>CO >CS	oxo- thiono-	-one -thione
7	Alcohols Thiols Selenols Tellurols	–OH –SH –SeH –TeH	hydroxy- mercapto- selanyl- tellanyl-	-ol -thiol -selenol -tellurol
8	Hydroperoxides	–OOH	hydroperoxy-	-hydroperoxide
9	Amines Imines Hydrazines	$-NH_2$ =NH $-NHNH_2$	amino- imino- hydrazino-	-amine -imine -hydrazine
10	Ethers Thioethers Selenoethers	–O– –S– –Se–	-oxy- -thio- -seleno-	
11	Peroxides	–OO–	-peroxy-	

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Encyclopedia

cyano group [sī'unō, sī-ăn'ō] Pronunciation Key

cyano group , in chemistry, functional group that consists of a carbon atom joined to a nitrogen atom by a triple bond; it can be joined to an atom or another group by a single bond to the carbon atom. When a cyano group is joined to hydrogen, it forms hydrogen cyanide. When it is joined to a metal, it forms a metal cyanide. When it is joined to an alkyl group or aryl group, it forms a nitrile. When two cyano groups are joined directly to one another, they form the cyanogen molecule, NCCN. Both the cyano group and hydrogen cyanide have been found in interstellar space.

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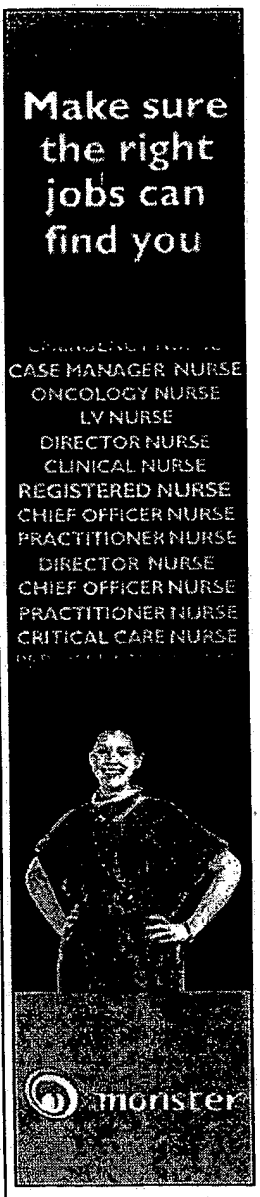

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carboxyl group (kärb□k's□l) , in chemistry, functional group that consists of a carbon atom joined to an oxygen atom by a double bond and to a hydroxyl group, OH, by a single bond. Carboxylic acids are compounds whose molecules contain a carboxyl group that is joined to a hydrogen atom, an alkyl group, or an aryl group by a single bond to its carbon atom. Dicarboxylic acids, compounds that contain two carboxyl groups, are important in a number of industrial processes. The four main types of reactions of carboxylic acids are chiefly due to either the weak acidity of the hydroxyl hydrogen or to the difference in electronegativity between carbon and oxygen. One type involves cleavage of the hydroxyl oxygen-hydrogen bond, e.g., reaction with an alcohol to form an ester or reaction with an alkali to form a water-soluble salt. A second type involves addition of an electron-rich species to the electron-deficient carbon atom of the carboxyl group. A third type is characterized by the joining of a carbon atom directly to the carboxyl group. A fourth type involves the loss of carbon dioxide (decarboxylation). The second and third types are similar to reactions of the carbonyl group; the carboxyl group may be thought of as a carbonyl group joined to a hydroxyl group.

Carbomed - Carboxytherapy
As demonstrated by Dr. Mulholland Treat localized adipose tissue
www.nutecint.com/carboxytherapy.htm

WordNet

Note: click on a word meaning below to see its connections and related words.

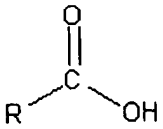
The *noun* carboxyl group has one meaning:

Meaning #1: the univalent radical COOH; present in and characteristic of organic acids
Synonym: carboxyl

Wikipedia

carboxyl group

In chemistry, a **carboxyl group** is a functional group consisting of a carbon atom doubly bonded to an oxygen atom and single-bonded to a hydroxyl (-OH) group, typically written as **-COOH**:



where R is a hydrogen or an organic group.

Carboxyl groups are weakly acidic and are the characteristic constituents of carboxylic acids. They are present in most organic acids, this making them biodegradable.

The addition of a carboxyl group to a compound is known as **carboxylation**; the removal of one is **decarboxylation**.

The C=O stretch of carboxyl groups can be identified spectroscopically by a sharp peak in the infrared between 1700 and 2100 cm^{-1}.

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